CLAIMS

1. Device for processing the surface of a container, of the type in which the processing is accomplished by a low-pressure plasma, by excitation of a reaction fluid with microwave type electromagnetic waves, and of the type in which the container is placed in an enclosure (12) made of a conductive material, inside of which enclosure, the microwaves are introduced by means of a coupling device,

characterized in that the enclosure (12) is a cylinder generated by rotation around a main axis (A1) of the container (24), in that the coupling device has a wave guide tunnel (15) which extends in a direction appreciably perpendicular to the axis (A1) of the enclosure and which opens into one wall thereof in the shape of a window which, in projection on a plane tangent to the enclosure, is rectangular in shape, the smaller dimension of which rectangle corresponds to its dimension along the direction of the axis of the enclosure, and in that the inside diameter of the enclosure (12) is such that the microwaves are propagated in the enclosure primarily according to a mode in which the electrical field, resulting from the propagation of the microwaves, has an axial symmetry generated by rotation.

2. Device according to claim 1, characterized in that, when the microwaves are introduced into the enclosure (12) in the absence of a container (24), the variation of intensity of the electrical field has two maximums on one radius of the enclosure.

3. Device according to claim 2, characterized in that the microwaves have a frequency of 2.45 GHz, and in that the inside diameter of the enclosure (12) is between 213 and 217 mm.

4. Device according to claim 1, characterized in that, when the microwaves are introduced into the enclosure in the absence of a container, the variation of intensity of the electrical field has three maximums on one radius of the enclosure.

5. Device according to claim 4, characterized in that the microwaves have a frequency of 2.45 GHz and the inside diameter of the enclosure (12) is between 334 and 340 mm.

6. Device according to claim 1, characterized in that, when the microwaves are introduced into the enclosure in the absence of a container, the variation of intensity of the electrical field has four maximums on one radius of the enclosure.

7. Device according to claim 6, characterized in that the microwaves have a frequency of 2.45 GHz and the inside diameter of the enclosure is between 455 and 465 mm.

8. Device according to any of the preceding claims, characterized in that the wave guide tunnel (15) has a rectangular cross section.

9. Device according to claim 8, characterized in that the microwaves have a frequency of 2.45 GHz, and the dimensions of the cross section of the wave guide tunnel (15) are approximately 43 mm along the direction of the axis (A1) of the enclosure (12) and approximately 86 mm along the perpendicular direction.

10. Device according to any of the preceding claims, characterized in that the reaction fluid is introduced into the container (24) in such a way that the processing is applied to the inner face of the container.

11. Device according to any of the preceding claims, characterized in that the reaction fluid is introduced into the enclosure (12), outside the container (24), in such a way that the processing is applied to the outer face of the container.

12. Device according to any of the preceding claims, characterized in that inside the enclosure (12), a cavity (18) is delimited by a wall (10) made of a material

that is appreciably transparent to the microwaves, and the container (24) is received inside the cavity (18).

13. Device according to any of the preceding claims, characterized in that the treatment includes a step in which a material is deposited by low-pressure plasma.